

**ANALISIS PERKEMBANGAN ANGKA MELEK AKSARA PENDUDUK  
USIA 15 TAHUN KE ATAS DI BALI MENGGUNAKAN *HOLT'S  
SMOOTHING MODEL***

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**ABSTRAK**

Penelitian ini bertujuan untuk melihat perkembangan angka melek aksara penduduk usia 15 tahun ke atas di Bali dengan menerapkan *Holt's Smoothing Model*. Data angka melek aksara di Bali tahun 2009-2023 yang bersumber dari Badan Pusat Statistik (BPS) Provinsi Bali menunjukkan adanya pola *trend*, sehingga *Holt's Smoothing Model* dapat digunakan untuk menganalisis perkembangan angka melek aksara. Berdasarkan analisis yang dilakukan diperoleh rata-rata persentase *error* (MAPE) pada masing-masing konstanta *smoothing* yaitu ( $\alpha = 0,7 \beta = 0,3$ ) sebesar 0,85%, ( $\alpha = 0,8 \beta = 0,2$ ) sebesar 0,89%, ( $\alpha = 0,8 \beta = 0,3$ ) sebesar 0,83%, ( $\alpha = 0,8 \beta = 0,4$ ) sebesar 0,79%, ( $\alpha = 0,8 \beta = 0,5$ ) sebesar 0,75%, ( $\alpha = 0,9 \beta = 0,2$ ) sebesar 0,86%, ( $\alpha = 0,9 \beta = 0,3$ ) sebesar 0,81%, ( $\alpha = 0,9 \beta = 0,4$ ) sebesar 0,77%, dan ( $\alpha = 0,9 \beta = 0,5$ ) sebesar 0,74%. MAPE terkecil didapatkan saat menggunakan konstanta *smoothing* ( $\alpha = 0,9 \beta = 0,5$ ), yakni sebesar 0,74%. MAPE yang dihasilkan memiliki tingkat akurasi sangat baik yang artinya metode ini dapat digunakan untuk meramalkan perkembangan angka melek aksara. Berdasarkan nilai MAPE 0,74% pada tingkat keakuratan peramalan 99,26% serta dengan perbedaan rata-rata pada kenyataan sebenarnya (RMSE) sebesar 0,746973. kemudian dilakukan prediksi perkembangan angka melek aksara pada tahun 2024, 2025, dan 2026, Diperoleh angka melek aksara penduduk usia 15 tahun ke atas di Bali tahun 2024 sebanyak 96,89% penduduk, tahun 2025 sebanyak 97,17% penduduk, dan tahun 2026 sebanyak 97,45% penduduk.

Kata kunci: Angka Melek Aksara, Peramalan, *Holt's Smoothing Model*

**ANALYSIS OF THE DEVELOPMENT OF LITERACY RATES OF THE  
POPULATION AGED 15 YEARS AND OVER IN BALI USING HOLT'S  
SMOOTHING MODEL**

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**ABSTRACT**

*This research aims to see the development of literacy rates for the population aged 15 years and over in Bali by applying Holt's Smoothing Model. Data on literacy rates in Bali for 2009-2023 sourced from the Bali Province Central Statistics Agency (BPS) shows a trend pattern, so Holt's Smoothing Model can be used to analyze developments in literacy rates. Based on the analysis carried out, the average percentage error (MAPE) for each smoothing constant is obtained, namely ( $\alpha = 0,7$   $\beta = 0,3$ ) of 0,85%, ( $\alpha = 0,8$   $\beta = 0,2$ ) of 0,89%, ( $\alpha = 0,8$   $\beta = 0,3$ ) of 0,83%, ( $\alpha = 0,8$   $\beta = 0,4$ ) of 0,79%, ( $\alpha = 0,8$   $\beta = 0,5$ ) of 0,75%, ( $\alpha = 0,9$   $\beta = 0,2$ ) of 0,86%, ( $\alpha = 0,9$   $\beta = 0,3$ ) of 0,81%, ( $\alpha = 0,9$   $\beta = 0,4$ ) is 0,77%, and ( $\alpha = 0,9$   $\beta = 0,5$ ) is 0,74%. The smallest MAPE was obtained when using the smoothing constant ( $\alpha = 0,9$   $\beta = 0,5$ ), namely 0,74%. The resulting MAPE has a very good level of accuracy, which means this method can be used to predict the development of literacy rates. Based on a MAPE value of 0,74% at a forecasting accuracy level of 99,26% and with an average difference in actual reality (RMSE) of 0,746973. then a prediction was made of the development of literacy rates in 2024, 2025, and 2026. It was found that the literacy rate of the population aged 15 years and over in Bali in 2024 was 96,89% of the population, in 2025 it was 97,17% of the population, and in 2024 it was 97,45% of the population.*

*Keywords: Literacy Rate, Forecasting, Holt's Smoothing Model*